

Appln. No. 09/596,663  
 RCE dated May 31, 2005  
 Reply to Advisory Action of April 29, 2005  
 Docket No. 6169-159

IBM Docket No. BOC9-2000-0014

### Amendments to Claims:

This listing of claims will replace all prior versions and listings of claims in the instant application:

### Listing of Claims:

1. (Currently Amended) A method for performing secured communications between a Voice Browser and a network device, said Voice Browser and network device exchanging VoiceXML-based Web content comprising the steps of:
  - a Voice Browser receiving an audible request from a user, said audible request requesting a request for Web content;
  - responsive to said audible request, the Voice Browser transmitting a request to the network device associated with the Web-based content to establish a secured communication session between the Voice Browser and the network device;
  - authenticating the network device;
  - subsequent to said authentication, negotiating a shared secret between the network device and the Voice Browser;
  - encrypting the VoiceXML-based Web content using said shared secret as an encryption key;
  - exchanging the encrypted VoiceXML-based Web content between the network device and the Voice Browser; [[and,]]
  - decrypting the VoiceXML-based Web content using said shared secret as a decryption key[[.]] ; and
  - the Voice Browser audibly presenting the decrypted Web content to said user.

Appln. No. 09/596,663  
RCE dated May 31, 2005  
Reply to Advisory Action of April 29, 2005  
Docket No. 6169-159

IBM Docket No. BOC9-2000-0014

2 (Original) The method of claim 1, wherein said step of authenticating the network device comprises the steps of:

transmitting a digital certificate from the network device to the Voice Browser, said digital certificate having a public key and a reference to a certificate authority; and,

validating said certificate authority.

3 (Original) The method of claim 2, wherein said digital certificate is an X 509-compliant digital certificate.

4 (Original) The method of claim 1, further comprising the step of authenticating the Voice Browser.

5 (Original) The method of claim 4, wherein said step of authenticating the Voice Browser comprises the steps of:

transmitting a digital certificate from the Voice Browser to the network device, said digital certificate having a public key and a reference to a certificate authority; and,

validating said certificate authority.

6 (Original) The method of claim 5, wherein said digital certificate is an X 509-compliant digital certificate.

7 (Original) The method of claim 2, wherein said step of authenticating the network device further comprises the step of challenging the network device.

Appln. No. 09/596,663  
RJE dated May 31, 2005  
Reply to Advisory Action of April 29, 2005  
Docket No. 6169-159

IBM Docket No. BOC9-2000-0014

8 (Original) The method of claim 5, wherein said step of authenticating the Voice Browser further comprises the step of challenging the Voice Browser.

9 (Original) The method of claim 7, wherein said step of challenging the network device comprises the steps of:

encrypting a message using said public key contained in said digital certificate;

transmitting said encrypted message from the Voice Browser to the network device;

decrypting said encrypted message using a private key corresponding to said public key; and,

transmitting the decrypted message to the Voice Browser.

10 (Original) The method of claim 8, wherein said step of challenging the Voice Browser comprises the steps of:

encrypting a message using said public key contained in said digital certificate;

transmitting said encrypted message from the network device to the Voice Browser;

decrypting said encrypted message using a private key corresponding to said public key; and,

transmitting the decrypted message to the network device.

11 (Original) The method of claim 1, wherein said negotiating step comprises the steps of:

generating a key for use in a symmetric cryptographic algorithm;

encrypting said generated key with said public key;

Appl. No. 09/596,663  
RFE dated May 31, 2005  
Reply to Advisory Action of April 29, 2005  
Docket No. 6169-159

IBM Docket No. BOC9-2000-0014

transmitting said encrypted key to the network device; and,  
decrypting said key in the network device with a private key corresponding to said public key.

13. (Original) The method of claim 1, wherein said negotiating step comprises the steps of:

generating a key for use in a symmetric cryptographic algorithm;  
encrypting said generated key with said public key;  
transmitting said encrypted key to the Voice Browser; and,  
decrypting said key in the Voice Browser with a private key corresponding to said public key.

14. (Original) The method of claim 1, further comprising the steps of:  
exchanging a list of supported symmetrical cryptographic algorithms for the network device and the Voice Browser;  
selecting a symmetrical cryptographic algorithm from said list; and,  
performing said encrypting and decrypting steps using said selected symmetrical cryptographic algorithm.

15. (Original) The method of claim 1, wherein said Voice Browser is a VoiceXML Browser Server.

16. (Currently Amended) A method for performing secured communications with a Voice Browser comprising the steps of:

a Voice Browser receiving an audible request from a user, said audible request being a request for Web content;

Appln. No. 09/596,663  
R. 01 dated May 31, 2005  
Reply to Advisory Action of April 29, 2005  
Docket No. 6169-159

IBM Docket No. BOC9-2000-0014

responsive to said audible request, the Voice Browser transmitting a request from the Voice Browser to a network device associated with the Web-based content for a secure communications session between the Voice Browser and the network device;

receiving from the network device a digital certificate containing a public key and a reference to a certificate authority.

authenticating the network device based on the digital certificate;

subsequent to said authentication, negotiating a shared secret with the network device;

encrypting data using said shared secret as an encryption key and transmitting said encrypted data to the network device;[[ and,]]

receiving encrypted Web content from the network device and decrypting the Web content using said shared secret as a decryption key; and,[[.]]

the Voice Browser audibly presenting the decrypted Web content to said user.

16 (Original) The method of claim 15, wherein said transmitting step further comprises the step of:

transmitting to said network device a list of supported encryption algorithms to use in said encryption and decryption steps,

said network device selecting an encryption algorithm from among said list.

17 (Original) The method of claim 16, wherein said data is encrypted using said selected encryption algorithm and said Web content is decrypted using said encryption algorithm.

18 (Original) The method of claim 15, wherein said digital certificate is an X.509-compliant digital certificate.

Appl. No. 09/596,663  
RCE dated May 31, 2005  
Reply to Advisory Action of April 29, 2005  
Docket No. 6169-159

IBM Docket No. BOC9-2000-0014

1. (Original) The method of claim 15, wherein said Web content is a VoiceXML document.

2. (Original) The method of claim 19, wherein said Voice Browser is a VoiceXML Browser Server.

2. (Currently Amended) A machine readable storage, having stored thereon a computer program for performing secured communications between a Voice Browser and a network device, said Voice Browser and network device exchanging VoiceXML-based Web content, said computer program having a plurality of code sections executable by a machine for causing the machine to perform the steps of:

a voice browser receiving an audible request from a user, said audible request being a request for Web content;

responsive to said audible request, the Voice Browser transmitting a request to the network device associated with the Web-based content to establish a secured communication session between the Voice Browser and the network device;

authenticating the network device;

subsequent to said authentication, negotiating a shared secret between the network device and the Voice Browser;

encrypting the VoiceXML-based Web content using said shared secret as an encryption key;

exchanging the encrypted VoiceXML-based Web content between the network device and the Voice Browser; [[and,]]

decrypting the VoiceXML-based Web content using said shared secret as a decryption key[.]; and

the Voice Browser audibly presenting the decrypted Web content to said user.

Appl. No. 09/596,663  
PCE dated May 31, 2005  
Reply to Advisory Action of April 29, 2005  
Docket No. 6169-159

IBM Docket No. BOC9-2000-0014

23. (Original) The machine readable storage of claim 21, wherein said step of authenticating the network device comprises the steps of:

transmitting a digital certificate from the network device to the Voice Browser, said digital certificate having a public key and a reference to a certificate authority; and,

validating said certificate authority.

24. (Original) The machine readable storage of claim 22, wherein said digital certificate is an X.509-compliant digital certificate.

25. (Original) The machine readable storage of claim 21, for further causing the machine to perform the step of authenticating the Voice Browser.

26. (Original) The machine readable storage of claim 24, wherein said step of authenticating the Voice Browser comprises the steps of:

transmitting a digital certificate from the Voice Browser to the network device, said digital certificate having a public key and a reference to a certificate authority; and,

validating said certificate authority.

27. (Original) The machine readable storage of claim 25, wherein said digital certificate is an X.509-compliant digital certificate.

28. (Original) The machine readable storage of claim 22, wherein said step of authenticating the network device further comprises the step of challenging the network device.

App'n. No. 09/596,663  
RFE dated May 31, 2005  
Reply to Advisory Action of April 29, 2005  
Docket No. 6169-159

IBM Docket No. BOC9-2000-0014

2. (Original) The machine readable storage of claim 25, wherein said step of authenticating the Voice Browser further comprises the step of challenging the Voice Browser.

26. (Original) The machine readable storage of claim 27, wherein said step of challenging the network device comprises the steps of:

- encrypting a message using said public key contained in said digital certificate;

- transmitting said encrypted message from the Voice Browser to the network device;

- decrypting said encrypted message using a private key corresponding to said public key; and,

- transmitting the decrypted message to the Voice Browser.

30. (Original) The machine readable storage of claim 28, wherein said step of challenging the Voice Browser comprises the steps of:

- encrypting a message using said public key contained in said digital certificate;

- transmitting said encrypted message from the network device to the Voice Browser;

- decrypting said encrypted message using a private key corresponding to said public key; and,

- transmitting the decrypted message to the network device.

31. (Original) The machine readable storage of claim 21, wherein said negotiating step comprises the steps of:



Appl. No. 09/596,663  
PCE dated May 31, 2005  
Reply to Advisory Action of April 29, 2005  
Exhibit No. 6169-159

IBM Docket No. BOC9-2000-0014

generating a key for use in a symmetric cryptographic algorithm;  
encrypting said generated key with said public key;  
transmitting said encrypted key to the network device; and,  
decrypting said key in the network device with a private key corresponding to  
said public key.

3. (Original) The machine readable storage of claim 21, wherein said  
negotiating step comprises the steps of:

generating a key for use in a symmetric cryptographic algorithm;  
encrypting said generated key with said public key;  
transmitting said encrypted key to the Voice Browser; and,  
decrypting said key in the Voice Browser with a private key corresponding to  
said public key.

3. (Original) The machine readable storage of claim 21, for further causing  
the machine to perform the steps of:

exchanging a list of supported symmetrical cryptographic algorithms for the  
network device and the Voice Browser;  
selecting a symmetrical cryptographic algorithm from said list; and,  
performing said encrypting and decrypting steps using said selected  
symmetrical cryptographic algorithm.

3. (Original) The machine readable storage of claim 21, wherein said Voice  
Browser is a VoiceXML Browser Server.

3. (Currently Amended) A machine readable storage, having stored thereon  
a computer program for performing secured communications in a Voice Browser,

Appl. No. 09/596,663  
R E dated May 31, 2005  
R ply to Advisory Action of April 29, 2005  
D ocket No. 6169-159

IBM Docket No. BOC9-2000-0014

said computer program having a plurality of code sections executable by a machine  
for causing the machine to perform the steps of:

a Voice Browser receiving an audible request from a user, said audible request  
being a request for Web content;

responsive to said audible request, the Voice Browser transmitting a request  
from the Voice Browser to a network device associated with the Web-based content  
for a secure communications session between the Voice Browser and the network  
device;

receiving from the network device a digital certificate containing a public key  
and a reference to a certificate authority.

authenticating the network device based on the digital certificate;

subsequent to said authentication, negotiating a shared secret with the network  
device;

encrypting data using said shared secret as an encryption key and transmitting  
said encrypted data to the network device;[[ and,]]

receiving encrypted Web content from the network device and decrypting the  
Web content using said shared secret as a decryption key; and,[[.]]

the Voice Browser audibly presenting the decrypted Web content to said user.

36 (Original) The machine readable storage of claim 35, wherein said  
transmitting step further comprises the step of:

transmitting to said network device a list of supported encryption algorithms  
to use in said encryption and decryption steps,

said network device selecting an encryption algorithm from among said list.

Appl. No. 09/596,663

IBM Docket No. BOC9-2000-0014

REE dated May 31, 2005

Reply to Advisory Action of April 29, 2005

Docket No. 6169-159

3. (Original) The machine readable storage of claim 36, wherein said data is encrypted using said selected encryption algorithm and said Web content is decrypted using said encryption algorithm.

3. (Original) The machine readable storage of claim 35, wherein said digital certificate is an X.509-compliant digital certificate.

3. (Original) The machine readable storage of claim 35, wherein said Web content is a VoiceXML document.

4. (Original) The machine readable storage of claim 39, wherein said Voice Browser is a VoiceXML Browser Server.